

JUL 18 2007 15:50 FROM:

6132328440

TO:USPTO

P.5/13

Appl. No. 10/682,086

RECEIVED
CENTRAL FAX CENTER

JUL 18 2007

REMARKS/ARGUMENTS

35 U.S.C § 103 Claim Rejections

In paragraph 2 of the Office Action, the Examiner has rejected claims 1-3, 7-8, 12-17, 19-26 and 31-33 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,148,219 to Engelbrecht *et al.* (hereinafter referred to as "Engelbrecht *et al.*") in view of U.S. Patent No. 6,958,677 to Carter (hereinafter referred to as "Carter").

The requirements for establishing a *prima facie* case of obviousness as set out in the MPEP Section 2143.01 require that: 1) the references when combined teach all of the claimed limitations; 2) that there be a reasonable expectation of success in realizing the claimed invention; and 3) that there be a motivation/reason to combine the references.

With reference to the Examiner's rejection of claims 1-3, 7-8, 12-17, 19-26 and 31-33 under 35 U.S.C. § 103(a) based on the combination of Engelbrecht *et al.* and Carter, it is respectfully submitted that a first criterion for establishing a *prima facie* case of obviousness cannot be established. That is, the cited references do not teach all of the claimed features. With reference to claim 1, it is respectfully submitted that the cited references fail to teach a wireless device comprising *inter alia* "a system for determining whether or not the wireless device is either inside a building or outside a building". With reference to independent claim 15, it is respectfully submitted that the cited references fail to disclose a method of assessing a location of a wireless device comprising *inter alia*: "i) transmitting a test signal from the first antenna; ii) receiving direct and/or reflected components of the test signal through the second antenna; iii) processing the direct and/or reflected components received through the second antenna to determine at least one prescribed radio signal propagation characteristic; iv) determining whether or not the wireless device is either inside or outside a building based on the determination of the at least one radio signal propagation characteristic". It is noted that independent claims 19, 20, 21, 22, 23, 31 and 33 recite similar limitations that render the independent claims novel and inventive over the cited references. Specifically, no combination of Engelbrecht *et al.* and Carter teaches or even suggests a wireless device, or a method of operation/configuration of a wireless device, operable to self-determine its location and configure itself based on the self-determined

JUL-18-2007 15:50 FROM:

6132328440

TO:USPTO

P.6/13

Appl. No. 10/682,086

location, as recited in the independent claims of the present invention, namely claims 1, 15, 19, 20, 21, 22, 23, 31 and 33.

As noted in the response to the previous Office Action, Engelbrecht *et al.* teaches a “[b]ase station and system modification to a digital cellular telephone system that measures location of a mobile station from its normal transmissions, and can forward the measured position to that station or some other authorized caller or service on the communication network. Range measurement is enabled without modification of mobile station equipment because of the synchronization between received pulse epochs and transmitted ones that are required for normal operation and digital telephony. Range measurement is made at a base station currently in contact with the mobile station by measuring the time interval from the start of its own transmitted pulse epoch to the start of a pulse epoch subsequently received from the mobile station, then dividing that time interval by twice the velocity of radio waves. Direction from the base station is determined, in a preferred embodiment, by use of a planar phase steered antenna array synchronized to pulse sequences from the mobile station.” (see Abstract of Engelbrecht *et al.*, emphasis added) From the foregoing, it is clear that Engelbrecht *et al.* describes a base station that is operable to determine the location of a mobile station by measuring the direction and time delay associated with a signal generated by the mobile station.

Carter is directed to an object location monitoring system that includes beacons that are spatially distributed throughout an area to be monitored. The beacons transmit interrogation signals that are received and echoed by transponders that attach to moveable objects. It is noted that Carter uses the term “echoed” to describe receiving an interrogation signal on an interrogation band and retransmitting the interrogation signal on a transponder echo band (See Figure 3A and the transponder circuitry in Figure 10).

Each beacon retransmits its interrogation signal, and any transponder response thereto, to a receiver that measures a time difference between the two signals. This time difference reflects the signal propagation time, and thus the distance, between the beacon and the transponder. One such receiver preferably analyzes the retransmitted signals of multiple (e.g., 50 to 100) beacons. A triangulation method is used to determine the location of each transponder based on the transponder’s distances from a set of beacons. In one embodiment, the transponders

JUL-18-2007 15:50 FROM:

6132328440

TO:USPTO

P.7/13

Appl. No. 10/682,086

are provided as or within disposable ID bracelets worn by patients, and are used to track the locations of the patients within a hospital.

In Carter, the location of the transponders are determined by triangulation using the "echoed" and retransmitted interrogation signals from at least three transmitting beacons at known locations. Therefore, the transmitted interrogations signals transmitted by the beacons are not used to self-determine the location of the beacons, and, similarly, the "echoed" interrogation signals transmitted by the transponders are not used to self-determine the location of the transponders.

In contrast, the present invention relates to wireless devices and methods by which a wireless device may self-determine a status, such as "indoor" vs. "outdoor". Determining the geographical location of a device does not equate to determining indoor vs. outdoor status, and in fact, indoor vs. outdoor cannot be determined from location alone. The reference has no discussion of indoor vs. outdoor status. Neither of the references contain any motivation for determining indoor vs. outdoor status.

Moreover, the references are directed to solving a very different problem than the present invention. Engelbrecht *et al.* is directed to determining a geographical location of a wireless device involved in a 911 call, so that authorities know where to go in order to respond to the call. Carter is directed to determining geographical locations of transponders affixed to movable objects so that the location of, for example, hospital equipment or patient bracelets, can be tracked. The present invention is directed to a wireless device that is operable to determine its status, such as "indoor" vs. "outdoor", and adjust its operational parameters based on its status.

In rejecting claims 1-3 and 12-14, the Examiner has pointed to column 6, lines 31-65 and column 8, line 43 to column 9, line 34 of Engelbrecht *et al.* as having disclosed "a system for determining whether or not the wireless device is either inside or outside a building". However, as noted above, Engelbrecht *et al.* as a whole, including these portions, describes methods and systems for determining the physical location of a wireless device using **external** signalling/measurement systems, i.e. signalling/measurement systems that are not part of the wireless device, such as a range measurement system at a base station that determines the range

JUL-18-2007 15:50 FROM:

6132328440

TO: USPTO

P.8/13

Appl. No. 10/682,086

to a mobile station by transmitting signals to, and receiving signals from, the mobile station. Accordingly, it is respectfully submitted that the Examiner is incorrect in asserting that Engelbrecht *et al.* teaches a wireless device **comprising** "a system for determining whether or not the wireless device is either inside a building or outside a building", since all of the location equipment used to determine the physical location of a mobile station in Engelbrecht *et al.* is completely separate and independent of the mobile station.

The Examiner has acknowledged that Engelbrecht *et al.* "does not specifically disclose the steps of determining whether or not the wireless device is either inside or outside a building", which is a strange admission on the part of the Examiner, considering that the Examiner has asserted that Engelbrecht *et al.* discloses a system operable to carry out this functionality.

In any case, the Examiner has relied on Carter in rejecting claims 1-3 and 12-14. The Examiner has pointed to the first antenna and the second antenna of each beacon in Carter in support of the rejection of these claims. However, as noted by the Examiner, the first antenna is used to send an interrogation signal on an interrogation band to a transponder and receive an "echoed" interrogation signal on a transponder echo band, while the second antenna is used to retransmit the interrogation signal and the echoed interrogation returned from the transponder on a beacon retransmission band, at which point a receiver 34 in an access point 40 receives the signal from the beacon on the beacon retransmission band and determines, through triangulation involving at least three beacons, the location of the transponder. This is totally different than the present invention, and it is not at all clear how the Examiner can equate any of the features of Carter with the features of the present invention. The Examiner appears to equate the two antennas of the beacons in Carter with the first and second antennas of the wireless device recited in claims 1-3 and 12-14. However, in Carter, the transponders 32, beacons 34 and access points 40 are all separate devices, i.e. they collectively provide "an object location monitoring system" (see the Title and Abstract of Carter). Therefore, as with Engelbrecht *et al.*, Carter cannot be found to disclose a wireless device **comprising** "a system for determining whether or not the wireless device is either inside a building or outside a building", since all of the location equipment used to determine the physical location of a transponder in Carter is completely separate and independent of the transponder.

JUL-18-2007 15:50 FROM:

6132328440

TO:USPTO

P.9/13

Appl. No. 10/682,086

With regard to claim 1, Applicant submits that in light of the fact that the teachings of Engelbrecht *et al.* and Carter are completely different than the teachings of the present invention and fail to teach or fairly suggest, individually and in combination, a wireless device comprising a first antenna and a second antenna and a system for determining whether or not the wireless device is either inside a building or outside a building, as recited in claim 1, claim 1 distinguishes over the teachings of Engelbrecht *et al.* and Carter and dependent claims 2-14, which depend from claim 1, distinguish for at least the same reasons.

With regard to claim 15, it is respectfully submitted that claim 15 recites further key limitations that distinguish over the teachings of Engelbrecht *et al.* and Carter, namely:

- i) transmitting a test signal from the first antenna;
- ii) receiving direct and/or reflected component of the test signal through the second antenna; and
- iii) processing the direct and/or reflected component received through the second antenna to determine at least one prescribed radio signal propagation characteristic.

The Examiner has pointed to Figure 2; column 2, lines 45-49; column 5, lines 5-22; column 6, lines 31-65; and column 8, lines 43- column 9, line 34 of Engelbrecht *et al.* as having discloses features i)-iii) above. However, these portions of Engelbrecht *et al.* and Engelbrecht *et al.* as a whole merely disclose a base station having a first antenna and a second antenna, which transmits a first signal via the first antenna to a mobile station instructing the mobile station to respond by producing a response signal, which the base station then receives via the first antenna and the second antenna (see the forward channel and reverse channel of Figure 1 of Engelbrecht *et al.*). From the foregoing, it is clear that Engelbrecht *et al.* does not disclose **transmitting a test signal from the first antenna and receiving direct and/or reflected components of the test signal through the second antenna**, as recited in claim 15.

Furthermore, the Examiner has pointed to sections of Carter in support of the rejection of claim 15 that are totally irrelevant or contradictory to the present invention. Carter fails to disclose any of the above key limitations of claim 15, and indeed the Examiner has

JUL-18-2007 15:51 FROM:

6132328440

TO:USPTO

P.10/13

Appl. No. 10/682,086

not even alleged that Carter does so. In fact, the Examiner has merely asserted a broad conclusory statement that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Carter to the communication system of Engelbrecht in order to monitor or track locations of wireless devices", which, as noted above, is not even the purpose of the method recited in claim 15, which is directed to a method of self-determining whether or not a wireless device is inside or outside a building.

In view of the foregoing, Applicant submits that it is clear that the teachings of Engelbrecht *et al.* and Carter are completely different than the teachings of the present invention. Specifically, in order for the location of a mobile station to be determined according to the teachings of Engelbrecht *et al.*, synchronized communication between at least two wireless devices, i.e. a base station and the mobile station is required. Such is not the case with the invention of the subject application. It is respectfully submitted that Engelbrecht *et al.* and Carter fail to teach all of the key limitations of independent claim 15. It is also submitted that by virtue of their claim dependencies on independent claim 15, dependent claims 16-20 distinguish over the cited references for at least the same reasons.

With regard to independent claims 19-23, 31 and 33, it is respectfully submitted that these independent claims recite similar distinguishing features as claims 1 and 15 and distinguish over the teachings of Engelbrecht *et al.* and Carter for at least the same reasons as claims 1 and 15.

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. § 103(a) rejection of claims 1-3, 7-8, 12-17, 19-26 and 31-33, since the first criteria for establishing a *prima facie* case of obviousness has not been satisfied.

On page 10 of the Office Action, the Examiner rejects claims 18 and 27-30 under 35 U.S.C. § 103(a) as being unpatentable over Engelbrecht *et al.* in view of Carter, and further in view of U.S. Patent No. 6,463,290 to Stilp *et al.* (hereinafter referred to as "Stilp *et al.*"). Applicant respectfully disagrees and submits that claims 18 and 27-30 are novel and inventive over the cited references.

JUL-18-2007 15:51 FROM:

6132328440

TO:USPTO

P.11/13

Appl. No. 10/682,086

Claim 18 depends from independent claim 15 and claims 27-30 depend from independent claim 23. Dependent claims contain all of the limitations of their base claims, and therefore claim 18 contains all of the limitations of claim 15 and claims 27-30 contain all of the limitations of claim 23. Applicant respectfully submits that a first criterion required to establish a case of *prima facie* obviousness has not been satisfied. That is, the prior art references do not teach all of the claimed features.

As outlined above in response to the 35 U.S.C. § 103 rejections of claims 15 and 23, Engelbrecht *et al.* and Carter fail to teach all of the key limitations of claims 15 and 23. Therefore claims 15 and 23 distinguish over Engelbrecht *et al.* and Carter, and all claims that depend from claims 15 and 23 distinguish over Engelbrecht *et al.* and Carter for at least the same reasons. Stilp *et al.* also fails to teach the key limitations of claims 15 and 23 that are not taught by any combination of Engelbrecht *et al.* and Carter, namely:

- "i) transmitting a test signal from the first antenna;
- ii) receiving direct and/or reflected components of the test signal through the second antenna;
- iii) processing the direct and/or reflected components received through the second antenna to determine at least one prescribed radio signal propagation characteristic;
- iv) determining whether or not the wireless device is either inside or outside a building based on the determination of the at least one radio signal propagation characteristic." (claim 15); and

"a system for automatically determining status of the antennas to differentiate between at least two status criteria" (claim 23).

In light of the fact that Engelbrecht *et al.*, Carter and Stilp *et al.*, either alone or in combination would not allow one skilled in the art to arrive at the subject matter of claims 15 and 23, it is respectfully submitted that claim 18, which depends from claim 15, and claims 27-30, which depend from claim 23, are novel and inventive over Engelbrecht *et al.*, Carter and Stilp *et al.* for at least the same reasons.

Appl. No. 10/682,086

In addition, Stilp *et al.* disclose a wireless location system that locates a wireless transmitter (mobile unit) "while the latter is using a modified transmission sequence comprising a message sent from the wireless transmitter using transmission parameters different from the normal transmission parameters broadcast on the forward control channel by the base stations in the associated wireless communication systems" (See Abstract of Stilp *et al.*). What this means is that the wireless location system (WLS) of Stilp *et al.* measures a signal comprising a modified transmission sequence generated by a remote mobile unit's wireless transmitter in order to determine the location of the wireless transmitter and hence the mobile unit.

The Examiner has pointed to the receiver module 10-2 of Stilp *et al.* in support of the rejections of claims 18 and 27-30 under 35 U.S.C. § 103(a). The Examiner has argued that the receiver module 10-2 contains "circuits to generate test frequencies and calibration signals, as well as test ports where measurements can be made by technicians during installation or troubleshooting". The Examiner has equated these circuits to the "test signal generator" recited in claim 27. Applicant submits that the receiver 10-2 and its associated circuitry are included as part of the wireless location system and is not part of the mobile units or wireless transmitters that are located by the wireless location system, which is completely contrary to the present invention, which relates to self-determining a status of a wireless device, such as a indoor vs. outdoor status of the wireless device, rather than relying upon communication between a wireless device and a wireless location system in order to determine a location of the wireless device. Therefore, Applicant submits that claims 18 and 27-30 recite further key features that distinguish over the teachings of the cited references.

Furthermore, with regard to claim 25 and 26, Engelbrecht *et al.*, Carter and Stilp *et al.* all fail to teach or even suggest that the at least two status criteria correspond to different radio system operation parameters and that the radio system operation parameters correspond, respectively, to an "indoor" and an "outdoor" setting.

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. § 103(a) rejection of claims 18 and 27-30, as the first criteria for the *prima facie* case of obviousness has not been satisfied.

Best Available Copy

JUL-18-2007 15:51 FROM:

6132328440

TO:USPTO

P.13/13

Appl. No. 10/682,086

Allowable Subject Matter

It is noted that the Examiner has indicated that claims 4-6 and 9-11 contain allowable subject matter.

Conclusion

In view of the foregoing, early favorable consideration of this application is earnestly solicited. In the event that the Examiner has concerns regarding the present response, the Examiner is encouraged to contact the undersigned at the telephone listed below.

Respectfully submitted,

DAVID STEER *ET AL.*



Alan Brett
Reg. No. 40,476
Tel.: (613) 232-2486

Date: July 18, 2007

RAB:JFS:sng

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- BLACK BORDERS**
- IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- FADED TEXT OR DRAWING**
- BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- SKEWED/SLANTED IMAGES**
- COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- GRAY SCALE DOCUMENTS**
- LINES OR MARKS ON ORIGINAL DOCUMENT**
- REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.